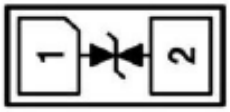
ESD Protection Diodes with Ultra Low Capacitance

Features

- ESD protection for high-speed data lines:
  - Exceeds: IEC 61000-4-2 (ESD) ±20kV(air), ±18kV (contact)
  - Human Body Model (HBM) ±15kV
- Small package saves board space
- Ultra low capacitance: 0.35pF
- Low clamping voltage
- Operating voltage: 8V
- Pb-free device

DFN1006-2L



Applications

- Portable handheld devices
- Notebook computers
- Digital Cameras
- Portable GPS

Mechanical Characteristics

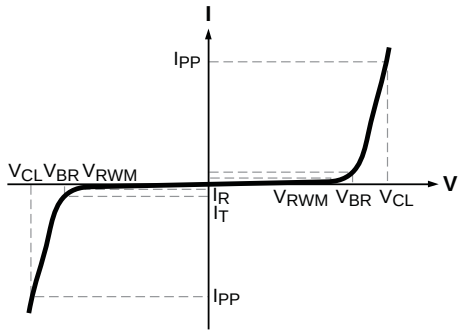
- Molded JEDEC DFN1006 package
- Packging:Tape and Reel

Device Characteristics

Maximum Ratings @25°C unless otherwise specified			
Parameter	**Symbol**	**Value**	**Units**
Peak pulse power (tp=8/20us)	Ppp	60	Watts
Operating Temperature	TJ	-55~150	°C
Storage Temperature	TSTG	-55~150	°C

Electrical Characteristics

TA = 25°C unless otherwise specified.

Symbol	Parameter	Diagram
I_{PP}	Maximum Reverse Peak Pulse Current (100ns Transmission Line Pulse (TLP)) (IEC61000-4-5 8/20 µs pulse current)	
V_{CL}	Clamping Voltage @ I_{PP}	
V_{RWM}	Working Peak Reverse Voltage	
I_R	Maximum Reverse Leakage Current	
V_{BR}	Breakdown Voltage	
P_{PK}	Peak Power Dissipation (IEC61000-4-5 8/20 µs pulse current)	
C_J	Capacitance @ V_R = 0 and f = 1 MHz	

Device	Device Marking	V_{RWM} (V) Max.	V_{BR} (V)		I_R (µA) Max.	V_{CL} Max.			P_{PK} (W)	C_J (pF) Typ.
			Min.	Max.		I_{PP} = 1 A	I_{PP} = 2 A	I_{PP} = 4 A		
FESD08BLCIS	S	8	8.9	12	0.1	12	14	18	60	0.35

Absolute Maximum Ratings

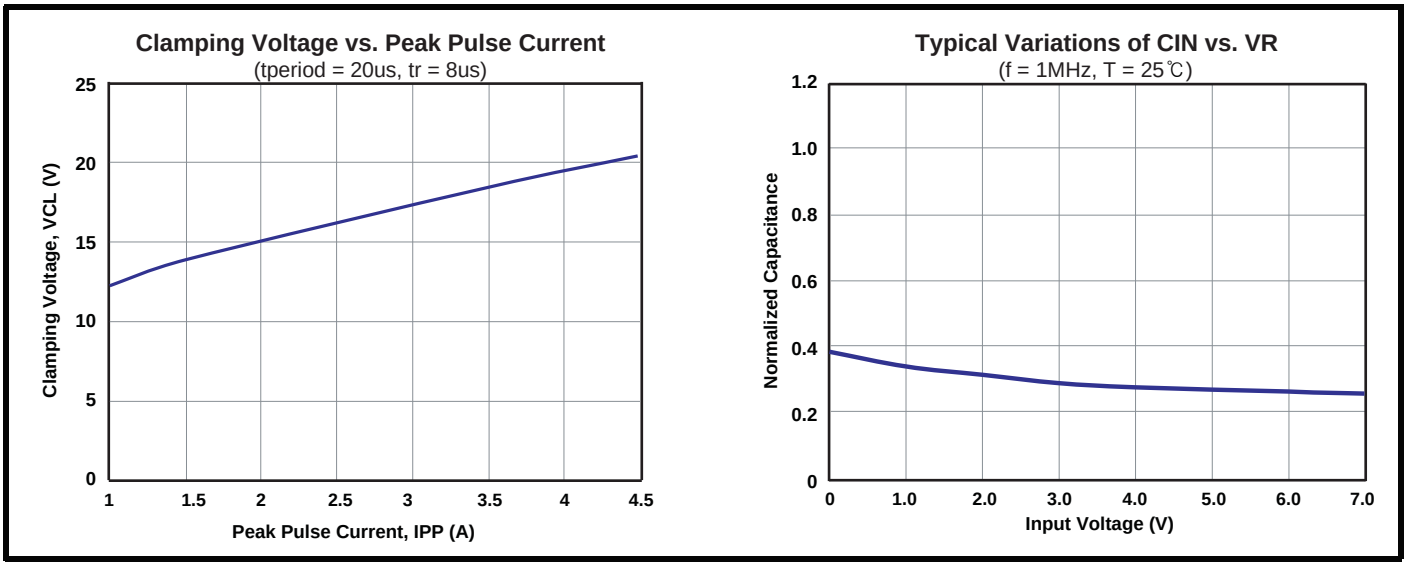
Exceeding the Absolute Maximum Ratings may damage the device.

Parameter	Rating
VP – VN	8V
Peak Pulse Current (I_{PP}), t_P = 8/20µs	4A
Storage Temperature (T_S)	-65 °C to +150 °C
ESD Rating per IEC61000-4-2, Contact(1)	±18 kV
ESD Rating per IEC61000-4-2, Air(1)	±20 kV
ESD Rating per Human Body Model(2)	±15 kV

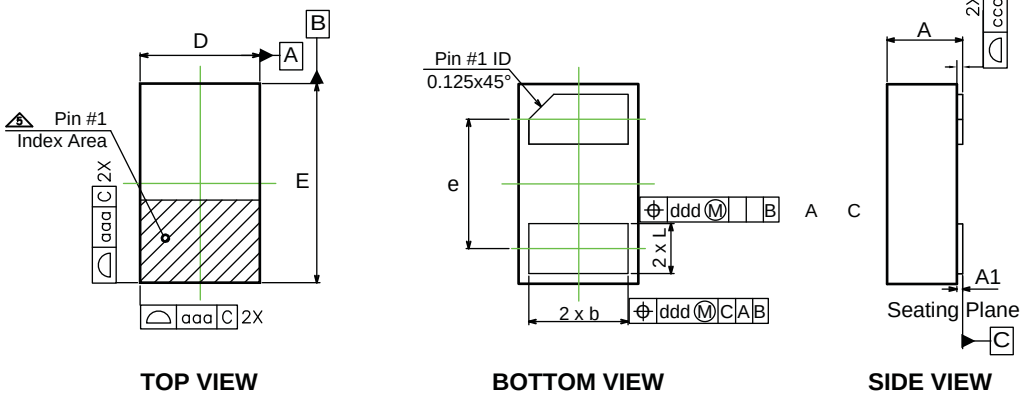
Notes:

1. IEC 61000-4-2 discharge with $C_{Discharge}$ = 150 pF, $R_{Discharge}$ = 330 Ω.
2. Human Body Discharge per MIL-STD-883, Method 3015 $C_{Discharge}$ = 100 pF, $R_{Discharge}$ = 1.5 kΩ.

Typical Performance Characteristics

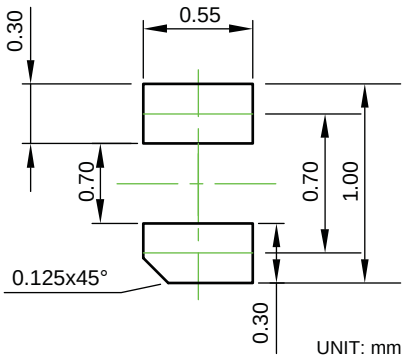


Package Dimensions, DFN 1.0 x 0.6



TOP VIEW BOTTOM VIEW SIDE VIEW

RECOMMENDED LAND PATTERN



Dimensions in millimeters

Symbols	Min.	Nom.	Max.
A	0.31	0.38	0.40
A1	0.00	0.02	0.05
b	0.45	0.50	0.55
D		0.60 BSC	
E		1.00 BSC	
e		0.65 BSC	
L	0.20	0.25	0.30
aaa		0.05	
ccc		0.03	
ddd		0.10	

Dimensions in inches

Symbols	Min.	Nom.	Max.
A	0.012	0.015	0.016
A1	0.000	0.001	0.002
b	0.018	0.020	0.022
D		0.024 BSC	
E		0.039 BSC	
e		0.026 BSC	
L	0.008	0.010	0.012
aaa		0.002	
ccc		0.001	
ddd		0.004	

Notes:

1. All dimensions are in millimeters, angles are in degrees.
2. Coplanarity applies to the exposed heat sink slug as well as the terminals.

Part Marking